



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|----------------------|------------------|
| 09/929,395 | 08/14/2001 | Jens Hamann | A34495 (071308.0224) | 9160 |

21003 7590 09/29/2003

BAKER & BOTTS
30 ROCKEFELLER PLAZA
NEW YORK, NY 10112

| |
|----------|
| EXAMINER |
|----------|

MACKEY, JAMES P

| | |
|----------|--------------|
| ART UNIT | PAPER NUMBER |
|----------|--------------|

1722

DATE MAILED: 09/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/929,395

Applicant(s)

HAMANN ET AL.

Examiner

James Mackey

Art Unit

1722

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 2 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 and 2 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

Art Unit: 1722

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 2 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: the relationship between the tension drive and the linear motor, and the relationship between the linear motor and the other structural elements besides the one tie bar (for example, the stationary plate and the movable plate). In other words, the claim does not describe what the linear motor drives, and does not describe how the two drives (tension drive and linear motor) cooperate, rendering the claims indefinite.

Further in claim 1, line 3, "by a tension drive along" is unclear and indefinite as to exactly what is intended to be claimed; line 3, "the guiding tie bars" lacks proper antecedent basis in the claim; line 4, "said moving plate" should be --said movable plate-- to agree with the recitation at line 2 of the claim; and lines 5-6, "which substantially surrounding arranged on at lease one tie bar" is unclear and grammatically incorrect.

In claim 2, line 1, the preamble "surface-pressure generating device" does not agree with the amended preamble of independent claim 1 (i.e., "pressure generating apparatus").

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1722

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Japan 63-1516 (Figure 3) or Japan 11-58468 (Figure 1), in view of Japan 5-293861 (Figs. 1-6, 9 and 10).

Japan '516 and Japan '468 each disclose a pressure generating molding apparatus comprising a stationary platen and a movable plate which is moved linearly in relation to the stationary plate along a plurality of guiding tie bars by a linear motor having a part substantially surrounding arranged on at least one tie bar. Japan '516 and Japan '468 do not disclose a tension drive for also moving the movable plate in relation to the stationary plate along the tie bars, the tension drive comprising a plurality of piezoelectric actuators. Japan '861 discloses a pressure generating molding apparatus having a movable plate which is moved linearly in relation to a stationary plate along guiding tie bars, the means for moving the movable plate including a linear (toggle) drive and a tension drive, the tension drive comprising a piezoelectric actuator 13, 42 (a plurality of actuators clearly shown in Figures 9 and 10). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify either Japan '516

Art Unit: 1722

or Japan '468 by providing a piezoelectric tension drive in addition to the linear motor drive, as disclosed in Japan '861, in order to allow extremely accurate control of the position of the movable plate during molding.

6. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Japan 63-1516 (Figure 3) or Japan 11-58468 (Figure 1), in view of German 19531131.

Japan '516 and Japan '468 each disclose a pressure generating molding apparatus comprising a stationary platen and a movable plate which is moved linearly in relation to the stationary plate along a plurality of guiding tie bars by a linear motor having a part substantially surroundingly arranged on at least one tie bar. Japan '516 and Japan '468 do not disclose a tension drive for also moving the movable plate in relation to the stationary plate along the tie bars, the tension drive comprising a plurality of piezoelectric actuators. German '131 discloses a pressure generating molding apparatus having a movable plate which is moved linearly in relation to a stationary plate along guiding tie bars, the means for moving the movable plate including a linear opening/closing drive and a tension drive 14, the tension drive comprising a plurality of piezoelectric actuators 16. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify either Japan '516 or Japan '468 by providing a piezoelectric tension drive in addition to the linear motor drive, as disclosed in German '131, in order to allow extremely accurate control of the pressure during molding.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over either Japan '516 or Japan '468, in view of either Japan '861 or German '131, as applied to claim 1 above, and further in view of Ludwig (U.S. Patent 5,811,037; col. 1, lines 46-49).

Art Unit: 1722

Each of Japan '516 and Japan '468, as modified by either Japan '861 or German '131, discloses the pressure generating molding apparatus as claimed, as described above, including linear motors having a part substantially surroundingly arranged on at least one tie bar. The linear motors are not apparently explicitly described as being asynchronous motors, the examiner contends that such is inherent in the teachings of each of Japan '516 and Japan '468; however, if Applicant contends that such is not an inherent characteristic of said linear motors, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the linear motors of either Japan '516 or Japan '468 by providing the linear motors as asynchronous motors, since such motors are recognized as being less expensive and requiring a less complex control system, as disclosed in Ludwig.

8. Applicant's arguments with respect to claims 1 and 2 have been considered but are moot in view of the new ground(s) of rejection.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Japan 62-3917 discloses a pressure generating molding apparatus having a linear (screw) drive for opening/closing movement of the movable plate and a tension drive comprising a piezoelectric actuator 19 for clamping movement of the movable plate. Steger (U.S. Patent 5,470,592) discloses a pressure generating molding apparatus having a linear drive for opening/closing movement of the movable plate and a tension drive comprising a plurality of magnetostrictive actuator 21 for clamping movement of the movable plate; note that magnetostrictive and piezoelectric actuators are equivalents in the art for providing a clamping movement to a movable plate (see, e.g., German 19531131). Japan 6-122136 and Japan 10-

Art Unit: 1722

12649 each disclose a pressure generating molding apparatus including a plurality of piezoelectric actuators for providing mold clamping pressure.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

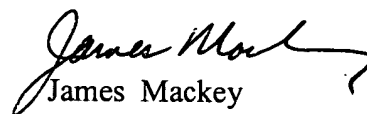
Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Mackey whose telephone number is 703-308-1195. The examiner can normally be reached on M-F, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



James Mackey
Primary Examiner
Art Unit 1722

9/22/03

jpm
9/22/03